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ABSTRACT

This study is part of a continuing program of evaluation of open vs. traditional education at the junior high school level. Incoming seventh graders were assigned to open and control groups to evaluate relative effects on academic underachievement, socialization, and general academic "success" as a function of various means of student selection. Initial, midpoint, and final testing will include measures of academic achievement, personality, attitudes, and socialization. The study uses a MANOVA (multivariate analysis of variance) random assignment model to permit definitive evaluation of some concepts of student selection for open education. (Author)

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Multivariate Evaluation of Student Selection Strategies in Open and Traditional Education

(a preliminary report)

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The purpose of this report is to present conceptual considerations, design factors, and analyses of preliminary data of a study conducted throughout the course of the 973-74 academic year. A final report, based upon the full year's data, will be prepared at the conclusion of the study.

In September, 1972, School District 162 inaugurated a pilot program of open education at the junior high school level. A total of 140 seventh- and eighth-grade students were randomly assigned to a single, very large, newly constructed classroom staffed by four teachers and two teacher-aides. A similar number of students were randomly chosen and assigned to the school's traditional departmentalized program to serve as a control group. The origin and nature of the programs and student assignment procedures have been detailed elsewhere (Sewell & Dornseif, 1973; Sewell & Dornseif, 1974).

Planning for evaluation of the open education program began well in advance of the program's inauguration. Evaluation plans focussed on two principal concerns: (1) determining the relative academic and socio-emotional values of open education and traditional education, and (2) determining which of the two types of programs was more appropriate to certain student characteristics. The first of these concerns was given priority in designing the initial evaluation model; that is, the objective of the first year's evaluation program was to determine whether student outcomes differed as a function of the type of educational program and, if so, whether these differences were positive or negative.

Data collected during and at the end of the program's first year showed no consistent pattern of superiorities for either the open classroom's students or students in the traditional (control) program; results are reported in detail elsewhere (Sewell & Dornseif, 1974). Certain of the findings, however, suggested that the open education program was, in effect, less "open" than had been anticipated or intended. Thus, while the second year's evaluation plan (1973-74) is primarily concerned with identification of appropriate student types for each program, a portion of the first year's plan is being continued into the second year. That is, outcome as a function of certain student characteristics is the major objective of the current study, but a secondary objective is continuing evaluation of the degree of "openness" in the program.

Individualization of instruction is a recurrent theme of publications dealing with the theory and practice of open education (Walberg & Thomas, 1972). Admission of the very concept of individualization, however, suggests that open education is not necessarily the most appropriate educational strategy for all individuals; indeed, some research data indicate that for at least some students the more structured, traditional approach is more suitable (Traub et al., 1973). Consideration of this possibility dictated the rationale, and to some extent the methodology, of the second year's evaluation plan.

Various conceptualizations of open education are capable of nominating widely differing types of students as likely to benefit from open education: ranging from gifted children (who can more freely pursue their own objectives) to academic underachievers (who can benefit from the teacher's individualized attention), from socially extraverted children (who can function more freely in an open environment) to socially introverted children (whose social development will be furthered by experience in an open environment). Indeed, con-

vincing rationales can be established for virtually any describable variety of student. (Whether this fact reflects favorably or adversely upon the nature of open education theorizing is moot.) It is obviously impossible to consider all possible student varieties in assessing the effects of a single program; hence the present study is concerned with relatively small numbers of limited varieties.

Because the first year's study had indicated that students generally succeed as well (in the academic sense, at least) in the open education program as in the traditional program, evaluation interest was directed toward non-academic student characteristics. Social and motivational characteristics were of primary interest, and the groups to be followed during the year were ultimately identified as an "introvert" group, an "extravert" group, an "under-achievement" group, and a "teacher-nominated" group. The general strategy of the evaluation involved both academic and non-academic progress of the students as a function of type of academic program. Simultaneously, the relative openness of the programs would be assessed.

Method

Content and organization of the open and traditional programs, and the physical settings in which they are conducted, remain essentially similar to those of the previous year (for details, see Sewell & Dornseif, 1973, 1974). Seventh-graders of the 1972-73 year are, of course, now eighth-graders; of the original group of 70 then-seventh grade students, a number have been lost as a result of family relocations or withdrawal from the program; although these have been replaced in the classroom, they have not been replaced in the study. That is, data reported here as derived from current eighth-graders were produced only by students who have been continuously enrolled in the program (whether open or traditional) since the beginning of the 1972-73 year.

Student Selection Strategies -- Seventh Grade

As in the previous year, 70 incoming students of the junior high school were to be assigned to the open classroom. (In this District, students attend local primary schools through the sixth grade and then are transferred to the District's single Upper Grade Center for seventh and eighth grades.) For the previous year's enrollment, these students had simply been chosen at random from a pool of approximately 400 students derived from fourteen sixth-grade classrooms distributed among the District's seven primary schools, except that boys and girls were to be equally represented in the sample, and each primary school was to be proportionately represented in the sample.

Because the second-year evaluation was intended primarily to focus on the relative effectiveness of assignment strategies, a more complex and subjective assignment procedure was devised. The fourteen sixth-grade teachers were assembled, and the basic objectives and operations of the open classroom were described to them by the evaluation staff. Each teacher, working from his own class list and on the basis of personal knowledge of the student, was asked to identify students according to the following grouping criteria:

1. Academic underachievement: "IQ at least average (100), but achievement scores less than 45th centile in at least three subtest areas."

2. Social introversion: "This student is mainly interested in hobbies, tasks, and objects. He or she is often alone or with only one friend. He or she would rather be a participant than a leader and usually responds only when spoken to. This student is generally quiet in class."

3. Social extraversion: "This student seeks social contact and has an interest in people. He or she is often with a group of peers or several friends. He or she tends to be a leader or seeks a leadership role and often initiates projects and ideas. This student tends to be quite verbal in class."

4. Teacher nomination: On the basis of their understandings of the

differences in concepts and methodologies of the open classroom and the traditional program, teachers were asked to nominate students who, in their opinions, would function best in each learning environment.

5. Random assignment: Students not identified for any of the preceding groups constituted a pool from which individuals would be randomly assigned to the open classroom and the traditional program; members of this group were intended to serve as controls for members of other groups.

Except for the "social introversion" and "social extraversion" groups, teachers were asked to nominate all students in their classes who met the criteria provided. To obtain the greatest subjective distinctions between "introverts" and "extraverts," the teachers were asked to identify the two students (one male, one female) who best met the criteria for each category.

In this manner, all sixth-grade students were assigned to one (and only one) of five pools from which assignments to the open classroom group and a traditional program control group could be made. Obviously, the largest of these pools was the "random assignment" pool.

Since only 70 students were to be assigned to the open classroom (and a similar number to the traditional program control group), dividing these 70 places among the five subgroups of interest was a severe problem, which, ultimately, had to be resolved on a largely subjective basis. Results of the previous year's study had revealed two areas of particular evaluative interest: academic achievement and sociability. It appeared that students in the open classroom fared as well as their traditional program counterparts in academic achievement; indeed, in some academic areas the open classroom students were significantly superior at the end of the year. There were indications, however, that the academic achievements of the open classroom group were made at some cost in self-concept and sociability. Since the previous year's students had all been randomly assigned, no special attention had been paid to underachieving

students; but it was hypothesized that the open classroom's provision for more individualized instruction (at least in theory) might well be especially advantageous to underachievers. A generally similar line of reasoning led to hypotheses of differential effects of the two educational programs upon "introverts" and "extraverts." Major allocations of student positions were, therefore, made to the first three of the five groups. A lesser number of students was allocated to test teachers' abilities to recommend student-appropriate educational programs.

Allocations to groups within the two programs finally were devised as follows:

	PROGRAM			
	Open		Traditional	
GROUP	Male	Female	Male	Female
Underachievement	9	10	13	10
Introversion	5	7	8	7
Extraversion	8	7	7	7
Teacher nomination	8	6	5	7
Random assignment	4	7	2	4
Total	34	37	35	35

Preliminary data indicate that significant results of analyses can be demonstrated despite the small number of students in these subgroupings.

Teachers in neither program were informed of the bases of assignment of new students. For purposes of this research, each student has been assigned a distinctive code number to identify him, his program and subgroup, sex, and grade level. Identifiable raw data are never made available to persons outside the evaluation group, and preliminary results have not been communicated to other school personnel.

Measures and Instruments

As noted previously, the two purposes of the present study are: (1) to monitor the relative openness of the open classroom program, (2) to determine the differential effects of the two types of programs for students in the various subgroupings of each program. The first year's evaluation study had shown little program effect at midterm; a pattern of significant and meaningful effects did not emerge until the final, end-of-year testing. Furthermore, both teachers and students objected to the frequency of test administrations during the first year, and it was decided to limit testing as much as possible during the present study. For these reasons, little effort has been made to obtain student-outcome measures at the midterm point.

Instead, primary evaluation attention has been devoted to measures of the nature of the open classroom program itself. The difficulty of measuring degree of openness has been extensively considered elsewhere (Sewell & Dornseif, 1974), but the previous year's study has provided an indirect measure which was both conceptually satisfactory and statistically useful: teachers' ratings of student "success."

This technique does not actually require teachers to rate each student as "successful" or "unsuccessful." Each student is, instead, assigned a numerical rating (on a five-point scale) in each of four areas which are defined as follows:

Attitude: Student displays positive attitudes toward school, teachers, other school personnel, and other students.

Knowledge: Student demonstrates mastery of academic content appropriate to his/her age, grade level, and apparent ability.

Skill: Student demonstrates application of academic content within school and displays ability to apply academic content in non-academic settings.

Sociability: Student demonstrates respect for the rights and feelings

of others and demonstrates ability to work effectively and cooperatively with others.

Teachers are asked to rate each child independently in each of the four designated areas and independently of other students. Low ratings designate below average performance, while high ratings indicate above average performance; and the teachers are informed that the "average" here is not limited to the students being rated but is intended to refer to the average of all students known in the teacher's career.

This student-rating method had been followed at the end of the first year (1972-73) study; all open classroom and all control group students were rated. Hence previous ratings for the current eighth-graders were available. At about the middle of the second year (1973-74) study, teacher ratings were secured for all current students of the open classroom program, but not for control group (traditional program) students.

Each open classroom teacher's ratings were converted into a single z distribution to avoid problems which might be caused by differences in use of the scale values. The result was a single z rating of each child by each teacher, or a total of four such z ratings for each child. These four ratings were then combined to yield a single mean z rating for each open classroom student, and this single rating can be considered as a measure of the student's "success." (In the previous year's study, "success" was arbitrarily defined as a mean z rating above the group's median, and "failure" was defined as a mean z rating below the group's median; these distinctions, however, were not necessary at this stage of the present study.)

The rationale for use of teacher ratings as a method of assessing program openness (or, in fact, any other program characteristic) argues that the teacher is in effect defining the objectives of the program in identifying "successful" and "unsuccessful" students; the respective characteristics of

those students reflect the positive and negative criteria of the program. It can be argued, for example, that if profiles of "successful" students in two putatively different programs do not significantly differ, then the objectives of the teachers in the two programs do not differ, and, therefore, the two programs do not differ. (Such, in fact, was the finding and conclusion of the first-year evaluation.)

Another approach to evaluation of program openness was also adopted for this preliminary evaluation. Whereas teachers' ratings of students provide the teachers' perspectives of the program, the students' perspective is no less important. To obtain this perspective, the Learning Environment Inventory developed by Walberg and Anderson (Anderson, 1973) was administered to all students in the open classroom and to all students in the traditional program control group. This instrument consists of 105 statements to which the student responds on a four-point agree-disagree scale. Scores on fifteen scales, each based on seven items, are obtained. Each of these scales presumably reflects a different aspect or characteristic of the classroom environment. Differences in educational programs should then produce statistically and conceptually different profiles.

Capacity limitations of the computer available for processing these preliminary data necessitated elimination of one of the seven-item scales of the Inventory. Because its reported reliability was lowest, the "Diversity" scale was not included in analyses, although the students did indeed complete the items of that scale. Otherwise, all administration and scoring recommendations were followed.

Results

For this preliminary report only results obtained through the two evaluation techniques noted above will be reported: analyses of teachers' ratings

and analyses of Learning Environment Inventory data. The final report of the second-year study will include more extensive and more detailed student-outcome analyses.

Analyses of Teachers' Ratings

Although all four of the open classroom teachers were asked to provide student ratings, only three of them complied. One teacher (the science teacher), apparently objecting to either the procedure or the request, returned his student list with virtually the same ratings for all students. Since these ratings were intended only for preliminary evaluation, no attempt was made to obtain new, more variable ratings from the teacher. His ratings, however, were included in calculations of the mean z ratings and had the general effect of adding a constant; that is, his ratings did not distort the effect of the other teachers' ratings.

Use of the Rating Scales. Several questions of interest can be raised about the way teachers use the four scales upon which each student was rated. Pearson product-moment correlations were calculated between each of the sixteen ratings of each student (four ratings by each of four teachers), but as noted above, lack of variability in one teacher's ratings render many of the intercorrelations meaningless. Examination of the patterns of intercorrelations within each teacher's ratings (for example, the correlation between the social studies teacher's ratings on the Attitude and Knowledge scales) suggests that the four scales more clearly represent two factors: a kind of "social" factor (including the Attitude and Sociability scales), and a kind of "academic" factor (including the Knowledge and Skill scales). The highest intercorrelations always occur between Knowledge and Skill ratings, ranging from .760 to .945; intercorrelations between Attitude and Sociability ratings are more modest, ranging from .700 to .795.

These within-teacher correlations are always higher than between-teacher correlations, even on the same scale. On the Attitude scale, the mean of the three teacher correlation coefficients is .657; on the Knowledge scale, .656; on the Skill scale, .665; and on the Sociability scale, .574. That is, each teacher's perceptions of the student are fairly consistent across rating dimensions, but the teachers do not as strongly agree with each other in rating a child, even within a single rating dimension.

This finding recommends use of a single rating by each teacher, and, indeed, just such a single rating was the result of constructing each teacher's z distribution. Hence for each teacher a single z rating was calculated for each student, a rating which was compounded of the teacher's four separate ratings of that student.

Homogeneity of the Program. The rationale of an open classroom staffed by four teachers certainly implies behavioral consistency among the teachers. While behavioral consistency may be evaluated in various ways (for example, by means of observation schedules, self-reports, etc.), most of these techniques are difficult to employ, unreliable, or excessively subjective. On the other hand, the teachers' ratings of students provide a simple and conceptually satisfying way of estimating program homogeneity.

Working together, cooperatively, over a period of time, teachers should gradually adopt perspectives which they can share; that is, a common conceptual framework should gradually emerge, whether this be done deliberately or unconsciously. Presumably this framework should be evident in the behavior of all the teachers, and it should manifest itself in similar beliefs about and evaluations of their students. By way of contrast, another set of teachers, each working in isolation, would be more likely to have more divergent views of a common group of students, since the view of each teacher would be formed in response to his individual experiences with the student. In a traditional,

departmentalized program, for example, there would be little reason to expect correlations of ratings of students by a language arts teacher and a science teacher greatly to exceed the correlations of the subject matters themselves.

In a negative sense, low intercorrelations of teacher ratings within the open classroom program would provide strong evidence of program heterogeneity, a lack of common viewpoint. High intercorrelations would, of course, not specify the nature of a common viewpoint, but it would indicate that such a viewpoint exists. Intercorrelations of z ratings by the three teachers whose ratings were usable are as follows: language arts and social studies, .700; language arts and mathematics, .724; social studies and mathematics, .768. These correlations are agreeably clustered, and they are substantially higher than those obtained in the previous year's study.

Correlates of Teachers' Ratings

The first-year study had indicated that ratings by teachers were substantially correlated with both sex and grade level, such that girls received higher ratings than boys, and seventh-graders received higher ratings than eighth-graders; indeed, the most "successful" students (those receiving the highest ratings by open classroom teachers) were seventh-grade girls. Other data suggested that passivity and academic ability were underlying sources of these ratings, thereby implying that the teachers' criteria of "success" were not particularly consonant with the theoretical objectives of open education.

Similar analyses were conducted with the teachers' current ratings of open classroom students. The point-biserial correlation between rating and grade level was now found to be .181, while that between rating and sex was found to be .195. Considering only eighth-grade students, the point-biserial correlation between rating and sex was found to be .397, while that between rating and sex at the seventh-grade level was .052. Hence it appears that nei-

ther sex nor grade level is any longer a significant associate of "success" in the open classroom.

Because the eighth-grade students had been rated near the end of the first-year study, it was possible to evaluate the consistency over time of teachers' ratings. The Pearson product-moment correlation coefficient between ratings provided approximately six months apart was .882. Although as noted above, rating and sex were only moderately correlated in this group, males continue to be rated significantly lower than females. At the end of the first-year study, the mean z rating for males was -.338 and for females was .570; the current mean z ratings are -.404 for males and .442 for females. Ratings of both males and females, it should be noted, are currently (but not significantly) lower than previously.

Subgroup Patterns of Teachers' Ratings

Seventh-grade students assigned to the open classroom had been, as previously noted, allocated to five subgroups. To determine whether teachers' ratings of students varied as a function of subgrouping characteristics, mean ratings for each group were calculated; since sex is essentially uncorrelated with rating (among the seventh-graders), a single mean for each subgroup was determined.

The mean rating for the Academic Underachievement subgroup was -.179 ($N = 19$); for the Introversion subgroup, -.745 ($N = 12$); for the Extraversion subgroup, .420 ($N = 15$); for the Teacher Nomination subgroup, .203 ($N = 14$); and for the Random Assignment subgroup, -.027 ($N = 11$). One-tail t tests of differences between these means showed significance for the Introversion-Extraversion means ($t = 5.271$, $df = 25$, $p < .001$), and for the Extraversion-Random Assignment means ($t = 1.977$, $df = 24$, $p < .05$). In both cases, of course, the Extraversion subgroup members were more highly rated.

These findings suggest that, with respect to the seventh-graders at least, the teachers' rating criteria are currently associated more closely with patterns of leadership and social behavior described in the assignment protocol, and that contrary patterns of behavior lead to significantly lower general ratings.

Learning Environment Inventory: Open vs. Control

Ratings of students by the teachers provide some understanding of the teachers' perspectives of the open education program. The other instrument employed in this preliminary study was used to evaluate the program from the students' perspectives. This instrument, the Learning Environment Inventory (LEI), was administered to all available members of the open classroom group and all members of the traditional program (control) group in group sessions. Students in both groups were instructed to complete the inventory with respect to their language arts classes, rather than with respect to their academic programs as a whole; this potential limitation should be considered in reviewing the results.

Because the eighth-grade and seventh-grade groups in both programs were assigned to their programs on different bases, results will be reported for each grade separately. And because these results are predicated upon preliminary data, they will be summarized rather than presented tabularly. Furthermore, the basic analytic technique employed here is that of the t-test, which, failing to take into account patterns of intercorrelations between scales of the LEI, may provide somewhat distorted results. More appropriate multivariate analyses will be applied to data derived from a year-end administration of the LEI. Nevertheless, it seems likely that the general patterns of results reported here can be defended.

Eighth Grade. Three of the fourteen LEI scales significantly differ-

entiated the open classroom group from the control group: Goal Direction (t = 1.941, df = 101, $p < .05$), Satisfaction (t = 2.709, df = 101, $p < .005$), and Competitiveness (t = 1.942, df = 101, $p < .05$). In each case, only one-tail tests were performed, since the directionality of expected differences could be theoretically derived. The pattern of these results suggests that the open program is more individualized and more satisfying than the traditional program.

Seventh Grade. The pattern of results for the seventh-grade groups is more complex. A summary appears in the following table.

SCALE	OPEN (N=64) Mean	TRADITIONAL (N=65) Mean	t
Cohesiveness	15.078	15.738	2.018**
Formality	19.500	20.292	2.206**
Speed	15.266	16.769	3.137***
Environment	19.766	18.554	3.014***
Friction	10.359	11.138	2.033**
Goal Direction	14.734	15.415	1.673*
Favouritism	16.297	17.600	2.258**
Difficulty	10.672	10.892	NS
Apathy	17.266	16.923	NS
Democratic	16.453	15.846	NS
Cliqueness	17.266	17.908	1.739*
Satisfaction	23.188	21.646	3.779***
Disorganization	15.016	14.938	NS
Competitiveness	18.219	18.000	NS

*$p < .05$ **$p < .025$ ***$p < .005$ ****$p < .0005$

All of these differences are in the directions predictable from open education theory.

Learning Environment Inventory: Seventh Grade Subgroups

While it is clear that as a whole seventh-graders in the open education program perceive their learning environment differently and more favorably than their counterparts in the traditional program, data are available to answer other questions of interest. The first of these concerns whether there are patterns of open program - traditional program differences specific to each of the seventh-grade subgroupings. Each open program subgroup was compared to its

counterpart in the traditional program on each of the LEI scales. Again, somewhat inappropriate t-tests were performed, and significance levels for one-tail tests are reported. Results for each subgroup are reported separately below; only those scales which significantly differentiated the open program and traditional program subgroups are noted.

Academic Underachievement Subgroup. The open program and traditional program subgroups differed on two scales of the LEI: Speed ($t = 1.707$, $df = 37$, $p < .05$) and Satisfaction ($t = 3.785$, $df = 37$, $p < .0005$). The open program students see their program as unhurried, and they are more satisfied with the program.

"Introversion" Subgroup. Four scales differentiated these subgroups in the open and traditional programs: Speed ($t = 1.769$, $df = 23$, $p < .05$), Environment ($t = 2.278$, $df = 23$, $p < .025$), Satisfaction ($t = 2.331$, $df = 23$, $p < .02$), and Disorganization ($t = 1.937$, $df = 23$, $p < .05$). As compared to the control subgroup, the open program students view their program as less rushed, disorganized, and confused; like and enjoy their physical environment; and are more satisfied with their program.

"Extraversion" Subgroup. Here, too, four scales differentiated the two subgroups: Cohesiveness ($t = 2.085$, $df = 24$, $p < .025$), Speed ($t = 2.908$, $df = 24$, $p < .005$), Friction ($t = 3.754$, $df = 24$, $p < .0005$), and Satisfaction ($t = 3.022$, $df = 24$, $p < .005$). The open program students are less cohesive as a group, a phenomonon probably related to individualization of instruction and greater emphasis upon individual goals as opposed to group goals. They, too, view their program as less rushed and marked by less internal tension and friction. They are more satisfied than their traditional program counterparts.

Teacher Nomination Subgroup. Three scales distinguished between the open program students and the traditional program students in this subgroup: Speed ($t = 2.125$, $df = 22$, $p < .025$), Goal Direction ($t = 1.762$, $df = 22$, $p < .05$),

and Favouritism (t = 1.826, df = 22, $p < .05$). The open program students view their program as less rushed, less directed toward group goals, and less marked by favoritism toward brighter or otherwise special students.

Random Assignment Subgroup. Comparisons of these subgroups were not conducted because of the very small number of students in the traditional subgroup.

Learning Environment Inventory: Assigned vs. Random Subgroups

A second question of considerable interest is whether effective bases for assigning subgroupings were established. Comparisons of open classroom subgroups with their control counterparts, as noted above, demonstrate with reasonable clarity the nature and magnitude of differences in the two educational programs, but these comparisons reflect little upon the validity of the subgroupings themselves. The purpose of the Random Assignment subgroups within the two programs was to permit within-program comparisons to test the validity of the other assignment criteria; that is, within each program significant differences should be found between each of the specific assignment subgroups and the Random Assignment subgroup. Unfortunately, the small size of the Random subgroup in the traditional program precludes meaningful comparisons, but the Random subgroup within the open education program is sufficiently large (N=10) to justify within-program comparisons.

Differences in LEI scales are clearest in the "Extraversion" vs. Random Assignment subgroups. Three scales differentiated these subgroups: Speed (t = 1.940, df = 21, $p < .05$), Friction (t = 2.377, df = 21, $p < .025$), and Satisfaction (t = 2.329, df = 21, $p < .025$).

Two LEI scales differentiate the "Introversion" and Random Assignment subgroups: Speed (t = 1.752, df = 19, $p < .05$), and Disorganization (t = 2.643, df = 19, $p < .025$).

Students in the Teacher Nomination subgroup differ from students in the Random Assignment subgroup on only a single scale: Goal Direction (t = 1.744, df = 19, $p < .05$). The Academic Underachievement subgroup did not differ from the Random Assignment subgroup on any scale.

In each case of significant scale differences, the direction of the difference favored an open education or individualization interpretation. Thus, for example, the mean of the "Introversion" subgroup for the Disorganization scale was lower than the mean of the Random Assignment subgroup; the former, then, perceived less disorganization of the learning environment than the latter. The general pattern of results of these analyses suggests that the "Extraversion" and "Introversion" subgroups are the most distinctive (at least within the open education program), and the Academic Underachievement subgroup is the least distinctive.

Discussion

The results of these limited, preliminary analyses are generally gratifying, particularly in comparison with the findings of the first-year study. There appears to be a reasonably clear documentation of teacher objectives and student perceptions conceptually consonant with open education.

At the end of the first year's study, data analyses showed that the open program teachers rated most highly those students who demonstrated superior academic achievement and whose personality structures were characterized by quietness and docility. These findings strongly indicated that the teachers' objectives did not significantly differ from those of teachers in the traditional program. Preliminary data of the current year's study, however, show a substantial departure from at least some of the previous year's objectives: now extraverted and gregarious students are most highly rated. Whether this apparent shift in teachers' objectives has been achieved at the expense of academic

accomplishment cannot be determined at this point; tests of academic achievement will not be administered until the end of the current year. The strong emphasis within the entire district upon academic achievement, however, makes it unlikely that the teachers would sacrifice academic achievement for social goals. What seems more likely at this point is that the teachers have simply expanded their objectives to include social goals of education.

Analyses of student-derived data are similarly gratifying. Students in the open classroom clearly perceive their learning environment as less structured, more individualized, less tense, and more satisfying than students in the traditional program. This pattern was not evidenced at the end of the first year's study, and it seems to parallel changes in teacher objectives. It should be emphasized, however, that traditional program students do not perceive their environment as adversely structured, excessively tense, or unsatisfying: in all cases scale means differed significantly -- and in the favorable direction -- from the theoretical means of the scales. That is, the traditional program students do not view their learning environments negatively; rather, the open classroom students view their environments more positively.

Approval of the environment of the open classroom is not limited to particular subgroupings of students. Indeed this approval is clearest when subgroupings are ignored; hence the environment is accepted by and acceptable to all currently included varieties of students. When the subgroupings are considered, however, clearest approval is given by the "Extraversion" and "Introversion" subgroups, again supporting the view that teachers' objectives have been expanded to include more social goals of education. Oddly, despite the fact that teachers rate "introverts" most negatively, these students quite strongly approve of their learning environment. Least differentiated of the subgroups, in both teachers' ratings and students' perceptions of the environment, are the Academic Underachievement, Teacher Nomination, and Random Assign-

ment subgroups. This finding, however, is rendered understandable when the strong influences of social and personality factors in both of the measures employed in this preliminary study are considered. It well may be that sharper differentiation will occur when academic achievement and other variables are considered in the year-end study.

The findings of the present study strongly support the belief that "openness" had not been achieved during the open education program's first year, and that the first-year's study had largely been an evaluation of a "non-event" (Charters & Jones, 1973). As these authors point out (p. 5), "There are certainly circumstances in which differences between what researchers regard as 'experimental' and 'control' programs are more fictional than factual, but in the absence of a measurement technology or tradition, such circumstances may well go undetected." Probably more often than not, such has been the character and the fate of open education programs. While educational theorists and practitioners seem to have emphatic (and frequently contradictory) notions of the nature of educational "openness," more frequently than not "openness" is achieved more by fiat than by thoughtful planning, careful implementation, and clearsighted evaluation. At least as important as the <u>products</u> of an educational program (student outcomes, for example) is the determination of the nature of the program. And at least as important as the evaluative results of this study is its methodology, which suggests ways in which program objectives can be determined in a clearer functional sense than through the use of paper-and-pencil instruments which seem all too often to bear little relation to classroom reality.

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